DOCUMENT RESUME

ED 372 065 SP 035 355

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TITLE A Comparison of Two Supervisory Models in a Preservice Teaching Practicum.
PUB DATE Apr 94
NOTE 15p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 4-8, 1994).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Clinical Supervision (of Teachers); Comparative Analysis; Early Childhood Education; Higher Education; Individual Instruction; Models; Physical Education; *Physical Education Teachers; Practicums; *Practicum Supervision; Program Effectiveness; *Self Evaluation (Individuals); Student Teacher Supervisors; Student Teaching; *Supervisory Methods
IDENTIFIERS Preservice Teachers

ABSTRACT

This study assessed and compared the effects of two supervisory models, self-assessment and direct supervision, on types and frequency of teacher verbal feedback statements and questions during a 6-week one-teacher-to-one-learner teaching practicum. Sixteen students majoring in physical education instructed the same learner twice per week for 6 weeks. In the self-assessment model, subjects individually assessed their video-audiotaped lessons through systematic observation, after each lesson, for types and frequency of verbal feedback statements and questions. Rate per minute scores for each type of feedback were graphed, and participants were instructed to write an objective specific to one feedback category. The focus of this objective was to increase the frequency of feedback. Subjects in the direct supervision model met with a supervisor after each lesson and jointly coded types and frequency of feedback statements and graphed them. The supervisor then prescribed, in collaboration with the participant, a strategy for the improvement of verbal patterns of interaction with the learner. Results indicate that a model of supervision which employs an initial period of self-assessment followed by direct supervision effectively increases the use of positive specific verbal behavior in preservice teachers. (Contains 17 references.) (JDD)

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ED 372 065

A Comparison of Two Supervisory Models in a Preservice Teaching Practicum

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A Comparison of Two Supervisory Models
in a Preservice Teaching Practicum

Early field experiences in professional preparation programs are needed to develop effective teaching behaviors in physical education teachers. Within a growing body of literature identified as research in teaching effectiveness, a model which integrates undergraduate coursework and early field experience has been suggested toward the development of such behaviors (Siedentop, 1991; Taggart, 1988). Instrumental to this model is the role of the university supervisor during post-lesson supervisory conferences.

Appropriate and effective intervention strategies enable the field experience to be formative. Teaching behaviors that initiate and support student learning have been the focus of several studies of teacher effectiveness (Siedentop, 1972; Siedentop, 1991; Taggart, 1988). The application of this research has provided a model for professional preparation programs in teacher education. These programs integrate coursework with preservice teaching in an early field experience. In this way students may apply the theories of effective teaching to actual classroom situations and be evaluated on their teaching behaviors (Taggart, 1988).

Investigators have identified specific intervention strategies that enhance teaching competency within the field experiences of professional preparation programs. In Siedentop's (1972) discussion of behavior modification, emphasis was placed on four factors: (a) the precise specification and objective measurement of behavior; (b) experimentation with various teaching strategies; (c) the impact of environmental factors on behavior; and (d) the modification of behaviors through techniques of operant conditioning. Siedentop (1991) suggests that improvement of teaching skills may be accomplished through a three step process. This process includes (a) the use of goal-setting, (b) provision of regular supervisory feedback, and (c) opportunity to practice.

The majority of research in teacher supervision refers to variations of the clinical supervision model. Clinical supervision is frequently defined as a formative evaluation process involving a preconference, observation, and post-conference cycle (Glickman & Bey, 1990). However, the emphasis is not always on format or process. Some writers see clinical supervision as a concept of collegiality and inquiry, while others see it as a tool which promotes teacher thinking, commitment and autonomy in instruction, and still others see it as formalized steps for providing teachers with feedback on the use of the elements of effective teaching to improve student achievement (Garman, Glickman, Hunter, & Haggerson, 1987).

Perspectives of the utility of clinical supervision yield two distinct models, the Glickman and Hunter models of clinical supervision. Glickman's model was established on the theoretical basis that developmental stages of conceptual thought and commitment to teaching

may be diagnosed. The implementation of the model employs one of three developmental-specific approaches in supervision. These approaches include nondirective, collaborative and directive styles of supervision (Glickman, 1981, 1985; Glickman & Gordon, 1987). Hunter's model of clinical supervision is based on seven essential elements of instruction. These elements include the anticipatory set, the objective, input, modeling, checking for understanding, guided practice, and independent practice (Glickman & Bey, 1990). This model, developed to train teachers, supervisors and administrators, implements clinical supervision with three purposes. These purposes include understanding the seven essential elements, receiving useful feedback on their use, and suggestions of ways in which the teacher might become more adept in their use (Glickman & Bey, 1990).

The nature of supervisory feedback, which is used to modify teaching behaviors, has been the focus of a number of studies. Mancini, Goss, and Frye (1982) found that supervisory feedback improved both the quality and quantity of teacher interactions with their students. In a study where the relationship between supervisory feedback and student behaviors was examined, Grant, Ballard, and Glynn (1990) reported that feedback to teachers resulted in an increased percentage of student on-task behavior.

In a series of studies conducted by Mancini, Wuest and van der Mars (1985), more conventional styles of feedback, which relied heavily on subjective assessments, were compared to systematic supervisory feedback combined with conventional feedback. In each of the studies reported, the addition of systematic supervisory feedback produced significant changes in teaching behaviors. In an effort to provide preservice teachers with a holistic perspective of their teaching performance, Byra and Marks (1994) investigated the use of a combined intervention strategy. In this study supervisory feedback was coordinated with goal-setting and behavior graphing in a multi-faceted approach to behavior modification. The results of this study indicated that planning and teaching behaviors were modified as an immediate effect of the planned intervention, as well as maintained following a 12 week interim with no practice.

Jonas and Blumberg (1986) suggest that the way in which the supervisor communicates his/her message is as important as the message itself. Conclusions from this study suggest that effective supervision of teachers includes feedback that recognizes teaching expertise, is provided immediately and in a non-punitive manner, methodologically employs active listening techniques, and seeks out solutions using a problem solving approach that is collaborative in nature.

As a teaching tool for the in-class pupil, feedback has been strongly supported (Siedentop, Herkowitz, & Rink, 1984; Siedentop, 1991). In Siedentop's (1991) discussion of

skills and strategies important to classroom management in physical education, the use of high rates of positive specific feedback are recommended. Specific feedback, as defined by Siedentop, contains information relevant to the behavior. In contrast general feedback supports the identified behavior but provides no information of its technical qualities. In relationship to student learning, Siedentop, Herkowitz, and Rink (1984) identify specific feedback as vital to instruction. This position suggests that feedback statements provide necessary information to the learner about his/her performance or results from a developmental standpoint.

Through the support provided by the literature, the preservice field experience has ample justification for its inclusion in the undergraduate teacher preparation curriculum. At this time, however, the role of the supervisor and planned strategies for intervention continue to be defined. The following study was designed to assess and compare the efficiency of two supervisory models as they might be applied in the preservice field experience. The purpose of this study was to assess and compare the effects of two supervisory models, self-assessment and direct supervision, on types and frequency of teacher verbal feedback statements and questions during a six-week one-teacher-to-one-learner teaching practicum.

Methods

Subjects

Physical education teacher education majors (n=16) from the same teacher preparation program volunteered to participate in this study. The teacher subjects were enrolled in their first formal teaching experience, which was a six week one-teacher-to-one-learner practicum. During this six week experience, each teacher taught fundamental motor skills to the same three, four, or five year old child, twice per week. Each teacher taught the same child for a total of 12 lessons. The 16 learners, each of whom was randomly assigned to one teacher, entered the fundamental movement program with varied skill levels. The average age of the teacher-subjects was 20 years.

Procedures

The teacher-subjects instructed the same learner twice per week for six weeks. During each lesson, the teachers were video-audiotaped for 10 minutes while teaching fundamental motor skills to their respective learners. This study can be broken down into four stages: (a) baseline one, (b) treatment intervention one, (c) baseline two, and (d) treatment intervention two. The first stage of the study encompassed lessons one through three. The video-audiotapes of these first three lessons were analyzed for use of teacher feedback statements and questions to determine subject baseline measures for types and frequency of feedback. No supervisory feedback was given to the teacher-subjects during this stage of the study.

Following the third lesson the teacher-subjects were paired according to ability (rate of feedback) and randomly assigned to one of two groups. This procedure was used to establish equated baseline measures between groups. During this stage of the study (treatment intervention one), each group of teacher-subjects received one of two types of supervision following each of their next three lessons. Data from the lesson following the intervention were analyzed to examine the effects of the independent variables (type of supervision) on the dependent variable (teacher feedback).

At the completion of treatment intervention one a second series of baseline measures (three lessons) were taken. During this stage teacher-subjects received no supervisory feedback.

During stage four of the study (treatment intervention two), the two types of supervision were reversed for the subject groups for the purpose of examining the replicable effects of the two treatments. This stage lasted for three lessons. Data from the lesson following the second intervention were used to verify the effects of the second treatment application.

The subjects for this study received an orientation preceding the collection of baseline data. This included a brief statement of purpose and simple instruction in the use of coding and graphing verbal feedback statements and questions. The statement of purpose defined the study as an inquiry of verbal patterns observed during teacher-learner interaction.

Independent Variables

The independent variables applied in this study were two supervisory models: (a) self-assessment, and (b) direct supervision. In the self-assessment model subjects individually assessed their video-audiotaped lessons through systematic observation, after each lesson, for types and frequency of verbal feedback statements and questions. Rate per minute scores for each type of feedback were graphed. After each lesson during each treatment, teacher-subjects were instructed to write an objective specific to one feedback category. The focus of this objective was to increase the frequency of feedback. As stated, no supervision other than the subjects self-assessment was applied.

Subjects in the direct supervision model met with a supervisor after each lesson and jointly coded types and frequency of verbal feedback statements and questions through systematic observation. Rate per minute scores for each type of feedback were then graphed. Following the graphing of these behaviors, the supervisor would prescribe, in collaboration with the teacher, a strategy for the improvement of the subject's verbal patterns of interaction with the learner.

Each conference which employed the direct model of supervision followed a five-step process. The objective of step one was to reduce any pre-existing anxiety between the teacher and the supervisor. In this step the supervisor would often open the discussion with friendly

questions or anecdotes, unrelated to the primary purpose of the conference, to serve as an ice-breaking activity. The second step involved a self-diagnosis by the teacher through reflection. In this step two questions were typically asked: (a) What were your (the teacher's) strengths?, and (b) What were your (the teacher's) weaknesses in regard to your teaching and feedback? The third step involved the review of the lesson on video-tape and subsequent coding of feedback statements. Following the lesson review, a fourth step was employed at which time strategies for the improvement of teacher verbal behavior were presented. In this step, three strategies were employed to modify verbal behavior: (a) the simple identification and specific reinforcement of learner behavior, (b) the replacement of general feedback with specific types of feedback, and (c) the use of corrective specific feedback to identify incorrect behavior and subsequently provide an opportunity for the use of positive specific feedback. The fifth and final step involved the use of a behavioral contract for goal-setting and the identification of the selected strategy to be implemented toward the accomplishment of this of this goal.

Dependent Variable

Teacher feedback statements and questions were recorded using event recording. This recording technique consists of tallying the number of times a specific behavior occurs. The teacher feedback statements and questions were coded as positive or negative. In addition, the nature of each statement was coded as either general or specific.

Interobserver Reliability

The reliability of the investigator's observations was determined using interobserver and intraobserver agreement. Interobserver reliability was established at .88 using simple percentage of agreement. This level of reliability represents the mean score of six independent observations conducted by the same two observers. Intraobserver reliability was established, with an interim period of one month, at .92. This level of reliability represents the mean score of eight observations, conducted twice, using the same instrument by the same investigator.

Research Design

A multiple treatment reversal design was employed in this study. This design was selected to compare the effects of two independent variables on a single dependent variable. A multiple treatment reversal design entails repeated measurement of behaviors during baseline and intervention phases. During the baseline phases, the independent variable is absent, while during the intervention phases the independent variable is present. Specifically, this design was selected for the ability to verify (through the introduction of a second baseline) and replicate (through the reversal of treatments) experimental effects (Heward, 1980).

Data Analysis

Frequencies for the feedback categories were tabulated and then converted to rate per minute scores for each lesson. Rate per minute scores were calculated by dividing the number of statements and questions tallied in each category by the total number of minutes in the observed lessons. This conversion was necessary because lesson length varied between 9 and 12 minutes. Rate per minute is an appropriate unit of measure to employ when length of observations is variable (van der Mars, 1989).

Inferential statistics were computed to interpret the data obtained. Rate per minute scores for the feedback categories were analyzed in separate univariate two-way ANOVAs, repeated measures. A .05 level of significance was used in all analyses.

Results

Frequencies were tabulated for the two dependent measures, positive specific feedback and positive general feedback for each lesson. The frequency scores were then divided by the total number of minutes in each lesson to obtain a rate per minute score for each type of feedback. Mean and standard deviation scores for the three dependent measures are presented in Table 1.

Place Table 1 About Here

Positive Specific Feedback

The results from the data analysis for positive specific feedback revealed a significant interaction effect (groups x interventions) $F(3,42)=5.10$, $p<.01$. Post hoc analysis (Scheffe) revealed a significant group difference following the second intervention, $F(1,14)=6.88$, $p>.02$. The group that received direct supervision provided positive specific feedback at a higher rate ($M=1.77$) than the group which self-assessed ($M=1.11$) (see Figure 1).

Place Figure 1 About Here

Positive General Feedback

The results from the data analysis for positive general feedback revealed no significant interaction effect (groups x interventions), $F(3,42)=.35$, nor main effects for groups, $F(1,14)=1.65$, or interventions, $F(3,42)=2.47$. The mean rate per minute score for group one was 1.70 following the first intervention (direct supervision), which represented a slight decrease from the baseline mean score (1.91), and 2.57 following the second intervention (self-assessment). The mean rate per minute score for group two was 2.41 following the first intervention (self-

assessment), which represented a slight increase from the baseline mean score (2.10), and 2.94 following the second intervention (direct supervision) (see Figure 2).

Place Figure 2 About Here

Discussion

The hypotheses were, in part, supported by this experiment. This study shows that the frequency of selected types of feedback may be modified through the use of either a self-assessment or direct model of supervision. The results indicate that over the course of the six-week teaching experience, the preservice teachers increased the frequency of their positive specific statements and modified the frequency of their positive general statements provided to the learners. Although no control group was employed within the design, the consistent baseline measures of each group seem to validate the interactive effects of the independent variables on each dependent variable.

In the comparison of the supervision models, the main thesis of this study, it was determined that direct supervision was significantly better in soliciting positive specific feedback. Nevertheless, it should be pointed out that these effects were limited to only one of the two types of feedback observed and measured during the second intervention only. Because this phenomenon was observed in only one of the two direct supervision interventions, it is doubtful that this model, alone, was responsible for this effect.

In the case of positive specific feedback statements, it is helpful to examine the data trends, between groups one and two, to gain insight into this phenomenon (see Figure 1). A steady upward trend was observed in both groups. Rate per minute scores increased from the first baseline measure through the first intervention and second baseline. From the second baseline to the conclusion of the second intervention, two distinct phenomena were observed. The rate per minute scores for specific feedback for the subjects who were self-assessing decreased (group one), while the rate per minute score for subjects receiving supervision increased (group 2). In effect, the significance of this between group comparison should not be interpreted as the effects of the direct model of supervision, but the timely effects of the direct model of supervision and self-assessment.

What is the importance of these two separate phenomena? During the initial phase of the study, trends in the data suggest that early application of either supervision model solicits a similar response. Nevertheless, the timely application of each model of supervision, in combination, may provide the best overall performance. In combination, the initial use of

direct supervision, in soliciting positive specific feedback, seems to be less effective than the initial use of a supervision model which employs self-assessment.

There seem to be two plausible reasons for the effectiveness of these models within sequence. The first reason may be a need for individualized practice and personal introspection during the initial lessons of the study. This is supported by the results which indicate that direct supervision was most effective when it followed a period of self-assessment as the initial model of supervision. The second reason may be that initial periods of direct supervision create dependence on the supervisor for reinforcement and teaching strategies which augment positive specific feedback. Subsequently, this may limit the novice teacher's ability to be autonomous in self-evaluation. This reason is supported by the anomaly observed during the second intervention in group one.

The expressed goal for each supervision model was to implement strategies that would increase specific types of feedback which were either positive or corrective in nature. Although positive general feedback was observed and measured, this type of reinforcement was not prioritized. During direct supervision emphasis placed on positive general feedback was limited to definition clarity, examples which highlight the difference between specific and general types of feedback, and a specific strategy which advocated the follow-up of positive general statements with positive specific statements.

In the comparison of group scores it is interesting to note the effectiveness of direct supervision on positive general rate per minute scores in group one. During the initial treatment, trends in the data suggest that direct supervision augmented the frequency of positive specific feedback while reducing rate per minute scores in positive general feedback from the initial baseline measures. This effect is supported through the comparison of the first three measures between groups (see Figure 2). Noteworthy is the overall increase, evident in each group, between measures one and three and the impact of each intervention on the magnitude of these measures. For both groups, the overall increase in rate per minute scores is quite similar. Group one scores increased from 1.9 to 2.25, and group two measures increased from 2.0 to 2.38. These data demonstrate positive trends. Nevertheless, anomalies in these trends warrant discussion. In group one direct supervision is shown to reduce rate per minute scores of positive general feedback throughout the first intervention. This observation is supported by the distinct upward trend in the data during the second baseline. Ancillary support for this finding is indicated through the initial upward trend, in group two, during self-assessment, and the subsequent baseline scores which reflect no increase in positive general rate per minute scores. These data suggest that during the initial intervention, direct supervision was not only

successful in augmenting the frequency of specific information to the learner (see Figure 1), but also was successful in limiting the use of general reinforcement (see Figure 2).

It is of further interest to note that the effect of direct supervision on positive general feedback was not replicated during the second treatment intervention in group two. During this stage of the study, the same intervention caused the rate per minute scores in positive specific and positive general feedback to increase. It is hypothesized that the timely application of direct supervision has an effect on the teacher's ability to develop discriminate patterns of verbal reinforcement. Although the results indicate that positive specific feedback increased significantly through the sequenced combination of self-assessment and direct supervision, the comparative results of positive general feedback scores indicate that the teachers within this group were unable to discriminate between the two types of verbal behavior. This phenomenon was observed during both interventions in group two.

Summary

The results indicate that direct supervision had a significant effect on positive specific verbal behavior. Nevertheless, it should be noted that these effects may be the result of interaction between the independent variables within groups. In conclusion, a model of supervision which employs an initial period of self-assessment followed by direct supervision effectively increases the use of positive specific verbal behavior in preservice teachers.

Several recommendations for preservice teacher supervision can be made based on the results of this study. First, supervisory objectives which include the augmentation of positive specific verbal behavior may be most effectively obtained through a model of supervision which employs early self-assessment followed by direct supervision. Second, supervisory objectives which include the reduction of positive general verbal behavior may be most effectively obtained through a model of supervision which employs early direct supervision. Finally, supervisory objectives which include the development of discriminate patterns of verbal behavior may be most effectively obtained through a model of supervision which employs early direct supervision.

This study raises as many questions as it answers. Questions that need to be addressed in future research include: (a) What might be the effects of continuous direct supervision on the verbal behaviors of preservice teachers? (b) What might be the effects of continuous self-assessment on the verbal behaviors of preservice teachers? And (c) what might the effects of no supervision be on the verbal behaviors of preservice teachers?

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Table 1

Group Means and Standard Deviation Scores for Frequency of Positive Feedback.

	Baseline 1		Intervention 1		Baseline 2		Intervention 2	
Feedback	M	SD	M	SD	M	SD	M	SD
Positive General								
Group 1 (n=8)	1.91	0.24	1.70	0.72	2.26	1.18	2.57	0.90
Group 2 (n=8)	2.09	0.46	2.40	0.75	2.39	0.60	2.90	1.70
Positive Specific*								
Group 1 (n=8)	0.54	0.22	1.11	0.27	1.40	0.57	1.11*	0.58
Group 2 (n=8)	0.56	0.24	0.91	0.43	1.26	0.57	1.77	0.42

Note: Group 1 received supervision followed by self-assessment.

Note: Group 2 received self-assessment followed by direct supervision.

*Significant at alpha .05.

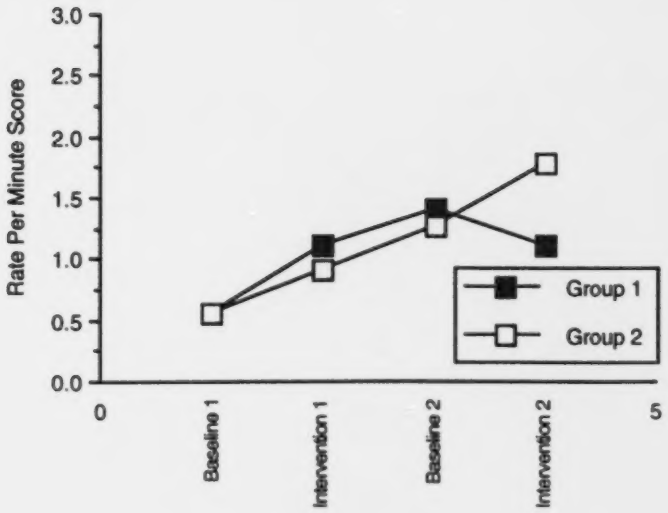

Figure 1. Positive specific feedbacks.

Note: Group 1 - Direct supervision followed by self-assessment.
Group 2 - Self-assessment followed by direct supervision.

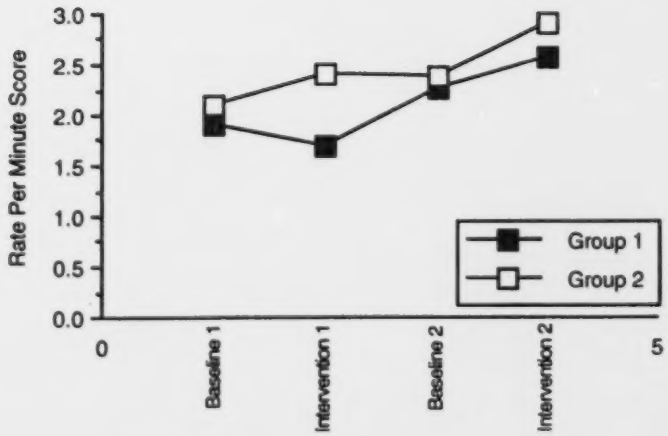

Figure 2. Positive general feedbacks.

Note: Group 1 - Direct supervision followed by self-assessment.
Group 2 - Self-assessment followed by direct supervision.